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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,277	03/21/2001	Toshihiko Hanamachi	6946-10	3964

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EXAMINER

ZERVIGON, RUDY

ART UNIT

PAPER NUMBER

1763

DATE MAILED: 07/17/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/814,277

Applicant(s)

HANAMACHI ET AL.

Examiner

Rudy Zervigon

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, and 7 rejected under 35 U.S.C. 102(b) as being anticipated by McMillin et al (USPat. 5,382,311). McMillin teaches a heater device (Figure 1) including a ceramic (column 4, lines 20-26) heater (2, column 5, lines 35-50) defining a heating surface. McMillin further teaches a detachable (column 4, lines 52-55) ceramic aluminum nitride plate (1,1c, column 4, lines 20-25, 33-39) that is placed on the heating surface (Figure 1), and in turn supports an object (4) to be heated. McMillin further teaches a radio frequency electrode (10, Figure 1) buried in the ceramic heater.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over McMillin et al (USPat. 5,382,311) as applied to claims 1-3, and 7 above, and further in view of no additional references. McMillin does not discuss the thickness of the ceramic plate as described above, however, McMillin does teach an electrode (1) for RF power (24) buried in the ceramic plate (1,1c; Figure 1). However, McMillin does teach the thickness of the ceramic dielectric layer 1c as being within 5-50 μ m (column 4, line 38).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for McMillin to vary the dimension of the ceramic plate.

Motivation for McMillin to vary the dimension of the ceramic plate is drawn to varying the electrostatic clamping force (column 1, lines 35-38).

5. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over McMillin et al (USPat. 5,382,311) as applied to claims 1-3, and 7 above, and further in view of Deguchi et al (USPat. 5,665,166). McMillin does not discuss an annular low wall surrounding the supporting surface, nor does McMillin teach a process vessel housing the above heater and ceramic plate.

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Deguchi teaches a similar electrostatic chuck (8, 7; Figure 1) that is also detachable. Deguchi also teaches an annular low wall (18, Figure 1) surrounding the supporting surface and also teaches a process vessel housing (1, Figure 1) a heater (7) and ceramic plate (8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for McMillin to implement the Deguchi annular low wall surrounding the supporting surface and the process vessel housing the McMillin heater and ceramic plate.

Motivation for McMillin to implement the Deguchi annular low wall surrounding the supporting surface and the process vessel housing the McMillin heater and ceramic plate is drawn to focusing the reactive ions (column 6, lines 22-28) in a process vessel for processing semiconductors (column 2, lines 34-67).

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Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPat. 5,382,311; 6,219,219; 5,280,156.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (703) 305-1351. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official after final fax phone number for the 1763 art unit is (703) 872-9311. The official before final fax phone number for the 1763 art unit is (703) 872-9310. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (703) 308-0661. If the examiner can not be reached please contact the examiner's supervisor, Gregory L. Mills, at (703) 308-1633.


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